SPONTANEOUS SPLENIC RUPTURE IN PREGNANCY: A CASE REPORT

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ABSTRACT

Spontaneous splenic rupture in pregnancy is a rare condition, associated with very high maternal mortality rate and fetal wastage. It is frequently misdiagnosed at presentation. We report a case of a 33-year-old, gravida 2, para 1 lady at 29 weeks' gestation with spontaneous splenic rupture, which was initially diagnosed as hypovolaemic shock due to ruptured uterus.Spontaneous splenic rupture as a cause of shock and abdominal pain should be considered whenever uterine rupture is suspected in the second half of pregnancy.

Keywords: Spontaneous, spleen, rupture, pregnancy, twins

INTRODUCTION

Spontaneous splenic rupture in pregnancy is a rare condition and occurs most commonly in the third trimester or puerperium, particularly in multi-fetal pregnancies. It is frequently misdiagnosed and failure to recognize it can be fatal for mother and child. The reported maternal mortality is in excess of 70%, with a 47% – 82% risk of fetal wastage. This highlights the need for prompt diagnosis and management.

Orloff and Peskin established the following four criteria for diagnosis; (1) the splenic rupture should not be associated with a history of trauma, (2) it should not occur in the presence of any systemic disease than can affect the spleen, (3) there should be no evidence of perisplenic adhesion to suggest previous trauma and (4) the splenic parenchyma, vasculature and capsule should be normal both macroscopically and histologically. The preoperative differential diagnosis includes placental abruption, ruptured uterus, ruptured splenic artery and other non-obstetric causes of abdominal pain in pregnancy.

Survival of patients with splenic rupture depends on several factors such as aggressive resuscitation with intravenous fluids and blood transfusion, early diagnosis and splenectomy. It is a surgical emergency that requires immediate recognition and treatment because delay in the diagnosis can be fatal.

CASE REPORT

A 33-year-old woman, gravida 2, para 1, with twin pregnancy at 29 weeks' gestation, was admitted to the labour ward with moderate anaemia and intrauterine fetal death (IUFD) of both twins. Three days before presentation she complained of intermittent generalized abdominal pains. She had no history of passage of 'show', drainage of liquor, vaginal bleeding or prior abdominal trauma. She

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booked for antenatal care at 13 weeks' gestation and ultrasound scan confirmed a monochorionic, diamniotic, twin pregnancy. Her antenatal care visits were regular and uneventful, except for a packed cell volume (PCV) of 29% at her last visit at 28 weeks' gestation. She had two doses of sulphadoxine-pyrimethamine combination for intermittent preventive treatment for malaria and her hemoglobin genotype was AA.

On examination, she was conscious, moderately pale and mildly dyspnoeic. Her blood pressure was 90/60 mmHg and pulse rate was 110 beats per minute. Her abdomen was enlarged and there were no areas of tenderness. The liver and spleen were not palpably enlarged. The symphysio-fundal height was 36 cm. The uterus was soft and non-tender, and she was having one moderate uterine contraction in 10 minutes lasting 25 seconds. There were two fetuses, with the leading twin in longitudinal lie and cephalic presentation. The fetal heart rates were absent on auscultation with fetal Doppler machine. Ultrasound scan confirmed twin gestation with IUFD. Vaginal examination revealed that the cervix was uneffaced and the cervical os was closed. She was subsequently managed as a case of anaemia in pregnancy with IUFD probably due to abruptio placentae. Blood samples were collected for grouping and cross-matching, complete blood count, thick and thin films for malaria parasite, mid-stream urine for microscopy and culture, clotting profile and liver enzymes. The results were essentially normal except for a PCV of 24%. She was transfused with two units of packed red blood cells. An attempt was made to ripen the cervix with four doses of misoprostol 25 micrograms administered vaginally every 6 hours.

About 5 hours after the third dose of vaginal misoprostol, she suddenly lost consciousness with clinical signs of haemorrhagic shock. A diagnostic peritoneal tap yielded free flowing non-clotting blood. Her blood pressure was 80/40 mmHg and her pulse rate was 124 beats per minute. Resuscitative measures were commenced immediately with intravenous fluid, and she was transferred to the operating theatre within 20 minutes for an emergency exploratory laparotomy for suspected ruptured uterus through a midline abdominal incision.

At laparotomy, the uterus was found to be intact and there was bleeding from the upper abdomen with about 2 litres of hemoperitoneum. The surgical teams (general surgeons and cardiothoracic surgeons) were called in, as bleeding was suspected to arise from either splenic capsule rupture or splenic artery rupture and vascular incident. Upper abdominal pack was left in to apply pressure on the spleen while awaiting the surgical teams. An emergency caesarean section was performed and two fresh stillborn male babies were delivered. There was no evidence of placental abruption. The surgeons extended the midline incision vertically to ease access to the spleen. There was active bleeding from the diaphragmatic surface of the spleen, through a capsular tear over a subcapsular hematoma. A total splenectomy was performed after ligation of the splenic artery and veins. The spleen weighed 250 grams and had regular outline.

The patient had a total of 7 units of red blood cells and two units of fresh frozen plasma. She was managed with intravenous fluids, parenteral antibiotics and analgesics, and low molecular weight heparin. She received postsplenectomy triple vaccine. Her post-operative period was uneventful and she was discharged on the 7th postoperative day. Histopathological examination of the spleen confirmed capsule rupture and there was no pre-existing pathology.

DISCUSSION

This is one of the first cases of spontaneous splenic rupture in pregnancy to be reported in Nigeria. The

common problem with spontaneous splenic rupture in pregnancy is misdiagnosis or late diagnosis. The case was initially misdiagnosed as placental abruption with intrauterine fetal death and later as uterine rupture. The high-index of suspicion of uterine rupture was based on the history of misoprostol use, the signs and symptoms of haemorrhagic shock, and the presence of hemoperitoneum. Unfortunately, the most frequent presentation of left upper quadrant abdominal pain that radiates to the left shoulder was absent. The diagnosis of splenic rupture was not considered before surgery, even though the need for resuscitation and surgical intervention was immediately obvious.

The use of midline incision during laparotomy allowed for easy access to the spleen. Although there are reports of conservative management of spontaneous splenic rupture, splenectomy is considered the safest option of management. The delay in the diagnosis and treatment of splenic rupture may be catastrophic, due to the high perinatal and maternal mortality rates. This case describes successful surgical management of a subcapsular, spontaneous splenic rupture in the third trimester of pregnancy.

In conclusion, the preoperative differential diagnosis of shock associated with abdominal pain in the second half of pregnancy should include spontaneous splenic rupture.

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